

USEABILITY FEATURES IN ON-LINE DELIVERY OF APPLICATIONS

ABSTRACT OF THE DISCLOSURE

Systems, methods, and computer program products for enhancing usability of on-line delivered applications. Access control is provided by generating and delivering an activation key to a client whenever the client seeks access to an application. A security process, integral to the application, validates the key. With respect to displaying information, a client inserts itself between the application and the renderer. This allows the client to provide information to the renderer for display to the user. In addition, content at a client can be upgraded or downgraded by providing only modified blocks to the client. The client saves blocks that reflect locally updated information. The efficient caching of blocks in persistent memory of a client is also described. Blocks in the client's cache are sequenced according to a calculated discard priority that depends on the most recent usage of each block and its frequency of usage. Newly downloaded blocks are cached if space is available. Otherwise, previously cached blocks are discarded based on discard priority until sufficient space is available.

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